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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,879	05/30/2001	Richard Henry Sternagle	1322/66	7103
25297	7590	12/15/2004	EXAMINER	
JENKINS & WILSON, PA 3100 TOWER BLVD SUITE 1400 DURHAM, NC 27707			TRAN, PHILIP B	
			ART UNIT	PAPER NUMBER
			2155	

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,879

Applicant(s)

STERNAGLE, RICHARD HENRY

Examiner

Philip B Tran

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 18-23 and 29-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-37 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/01 and 10/02.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-17 and 24-28, drawn to system and method of session/connection parameter setting, classified in class 709, subclass 228.

II. Claims 18-23, drawn to a system of computer-to-computer protocol implementing, classified in class 709, subclass 230.

III. Claims 29-37, drawn to a method of load balancing, classified in class 719, subclass 105.

2. Inventions I, II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as system and method of system and method of session/connection parameter setting such as protocol for transferring data for a session or connection between computers, classified in a different Class/Subclass. Invention II has separate utility such as system for controlling the format and relative timing of transfer of data between computers in order to maintain communication, classified in a different Class/Subclass. Invention III has separate utility such as method of load balancing, classified in a different Class/Subclass. See MPEP § 806.05(d).

3. The inventions are distinct, each from the other, because of the following reasons:

(a) These inventions have acquired a separate status in the art as shown by their different classifications.

(b) The search required for each Group is different and not co-extensive for examination purposes.

For example, the searches for the two inventions would not be co-extensive because these Groups would require different searches on PTO's classification class and subclass as following:

the Group I search (claims 1-17 and 24-28) would require use of search Class 709, subclass 228 (not require for the inventions II and III).

the Group II search (claims 18-23) would require use of search Class 709, subclass 230 (not require for the inventions I and III).

the Group III search (claims 29-37) would require use of search Class 719, subclass 105 (not require for the inventions I and II).

For the reasons given above restriction for examination purposes as indicated is proper.

4. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48 (b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48 (b) and by the fee required under 37 CFR 1.17 (i).

6. During a telephone conversation with Mr. Gregory Hunt (Reg. No. 41,085) on 12/01/ 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-17 and 24-28. Affirmation of this election must be made by the applicant in replying to this Office Action. Claims 18-23 and 29-37 are withdrawn from consideration by examiner, 37 CFR 1.142 (b), as being drawn to a non-elected invention.

Claim Rejections - 35 U.S.C. § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-4, 6-7, 16-17, 24 and 28 are rejected under 35 U.S.C. § 102(e) as being anticipated by Yoakum et al (Hereafter, Yoakum), U.S. Pat. No. 6,421,674.

Regarding claim 1, Yoakum teaches a session initiation protocol (SIP) signaling router comprising:

(a) a plurality of cluster nodes for performing at least one session initiation protocol function, each cluster node storing a local database containing SIP location information (= a plurality of SIP proxy servers with each containing a database that stores records) [see Fig. 5 and Abstract and Col. 2, Lines 13-63 and Col. 4, Lines 13-60]; and

(b) a location server coupled to the cluster nodes for maintaining a database of SIP location information and for automatically replicating the database of SIP location information to each of the cluster nodes in real time in response to receiving updates to the SIP location information (= master proxy server with a database containing the address of a plurality of SIP proxy servers A-Z for implementing a real-time, distributed, hierarchical database in which database records are distributed across multiple physical machines located in different locations) [see Figs. 2 & 5 and Col. 2, Lines 1-3 and Col. 2, Lines 13-29 and Col. 8, Lines 48 to Col. 9, Line 42].

Regarding claims 2-4, Yoakum further teaches the SIP signaling router of claim 1 wherein each of the cluster nodes comprises a SIP proxy server and a SIP redirect server [see Fig. 5].

Regarding claims 6-7, Yoakum further teaches the SIP signaling router of claim 1 comprising first and second layer 2 switches coupled to each of the cluster nodes

wherein each of the cluster nodes include first and second network interfaces and the first layer 2 switch is coupled to the first network interface of each of the cluster nodes and the second layer 2 switch is coupled to the second network interface of each of the cluster nodes [see Fig. 2].

Regarding claim 16, Yoakum further teaches the SIP signaling router of claim 1 wherein the cluster nodes and the location server each comprise stand alone computers or workstations [see Figs. 2 & 5].

Regarding claim 17, Yoakum further teaches the SIP signaling router of claim 1 further comprising an inter-processor message transport bus for carrying message between the cluster nodes and the location server, wherein the cluster nodes and the location server each comprise a printed circuit board connected to the inter-processor message transport bus [see Figs. 2 & 5].

Claim 24 is rejected under the same rationale set forth above to claim 1.

Regarding claim 28, Yoakum further teaches the method of claim 24 wherein the SIP signaling messages include SIP INVITE messages [see Col. 2, Lines 30-63].

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoakum et al (Hereafter, Yoakum), U.S. Pat. No. 6,421,674 in view of Bommareddy et al (Hereafter, Bommareddy), U.S. Pat. No. 6,779,039.

Regarding claims 8-10, Yoakum does not explicitly teach the SIP signaling router of claim 7 wherein at least one of the first and second layer 2 switches is configured to periodically ping each of the cluster nodes to determine sub-application level protocol stack operational status of the cluster nodes wherein the first layer 2 switch is adapted to periodically send health check messages to each of the cluster nodes to determine application-level operational status and wherein the first layer 2 switch is adapted to determine the operational status based on the response time of each of the cluster nodes to the health check messages.

However, Bommareddy, in the same field of network flow endeavor, discloses health check operation of cluster nodes [see Bommareddy, Col. 3, Lines 39-48 and Col. 6, Lines 30-45 and Col. 7, Lines 40-49]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Bommareddy by periodically sending health check messages to each cluster node in order to monitor and control the health of cluster node and detect if there is any failure or traffic congestion occurred.

Regarding claims 11-12, Yoakum does not explicitly teach the SIP signaling router of claim 6 wherein the first and second layer 2 switches are redundantly connected to each of the cluster nodes wherein the first and second layer 2 switches are adapted to dynamically reroute SIP signaling traffic around congested or failed signaling links using a link aggregation control protocol.

However, Bommareddy, in the same field of network flow endeavor, discloses redundancy of connections to cluster nodes [see Bommareddy, Figs. 1 & 8 and Abstract]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Bommareddy in order to dynamically reroute SIP signaling traffic around congested or failed links.

11. Claims 5 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoakum et al (Hereafter, Yoakum), U.S. Pat. No. 6,421,674 in view of Lin et al (Hereafter, Lin), U.S. Pat. No. 6,088,721.

Regarding claim 5, Yoakum does not explicitly teach the SIP signaling router of claim 1 wherein the location server is adapted to replicate the database of SIP location information to each of the cluster nodes using a reliable multicast transport protocol (RMTP).

However, Lin in the same field of replication of objects endeavor, discloses replication of objects from a server to a plurality of cluster nodes such as caching servers using a reliable multicast transport protocol (RMTP) [see Lin, Col. 3, Lines 35-62]. It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to incorporate the teaching of Lin in order to provide lossless delivery of data stream in the network to the destinations.

Claim 27 is rejected under the same rationale set forth above to claim 5.

Allowable Subject Matter

12. Claims 13-15 and 25-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other References Cited

13. The following references cited by the examiner but not relied upon are considered pertinent to applicant's disclosure.

A) Sollee et al, U.S. Pat. No. 6,757,732.

B) Gallant et al, U.S. Pat. No. 6,636,596.

C) Glietho et al, U.S. Pat. No. 6,625,141.

D) McLampy et al, U.S. Pat. Application Pub. No. US 2002/0145975 A1.


E) Girard, U.S. Pat. Application Pub. No. US 2002/0176404 A1.

14. A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS ACTION IS SET TO EXPIRE THREE MONTHS, OR THIRTY DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. FAILURE TO RESPOND WITHIN THE PERIOD FOR RESPONSE WILL CAUSE THE APPLICATION TO BECOME ABANDONED (35 U.S.C. § 133). EXTENSIONS OF TIME MAY BE OBTAINED UNDER THE PROVISIONS OF 37 CAR 1.136(A).

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Tran whose telephone number is (571) 272-3991. The Group fax phone number is (703) 872-9306.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam, can be reached on (571) 272-3978.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.


Philip B. Tran
Art Unit 2155
December 07, 2004